

**Allied-Signal Aerospace Company**

Guidance Systems Division  
Courier Operations  
375 N Lake Street  
Bozoye City, MI 49712  
Telephone (616) 582-6526

CONTAINS NO CBI



21 JUL 10 AM 9:35

OTS DOCUMENT CONTROL  
OFFICE

90-890000399

July 5, 1989

Document Processing Center  
Office of Toxic Substances, TS-790  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460  
Attention: CAIR Reporting Office

Dear Sirs:

SUBJECT: Comprehensive Assessment Information Rule

I hereby certify that I have completed and reviewed the attached documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and values in this report are accurate based on data available to the preparers of this report. Should you have any questions, please contact my office.

Sincerely,

A handwritten signature in cursive script that reads 'Alan M. Weathers'.

Alan M. Weathers  
Health, Safety & Environmental Administrator

AMW:amw



Form Approved  
OMB No. 2010-0019  
Approval Expires 12-31-89

90 JUL 10 AM 8:35

OFFICE OF TOXIC SUBSTANCES CONTROL  
OFFICE

EPA-OTS

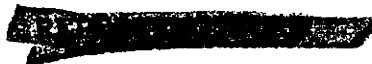


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90-890000 399

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Comprehensive Assessment Information Rule



When completed, send this form to:

Document Processing Center  
Office of Toxic Substances, TS-790  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460  
Attention: CAIR Reporting Office

For Agency Use Only:

Date of Receipt: \_\_\_\_\_

Document  
Control Number: \_\_\_\_\_

Docket Number: \_\_\_\_\_

SECTION 1 GENERAL MANUFACTURER, IMPORTER, AND PROCESSOR INFORMATION

PART A GENERAL REPORTING INFORMATION

1.01 This Comprehensive Assessment Information Rule (CAIR) Reporting Form has been

completed in response to the Federal Register Notice of..... [1][2] [2][2] [8][8]  
mo. day year

CBI

☐ a. If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal Register, list the CAS No. .... [0][0][0][5][8][4]-[8][4]-[9]

b. If a chemical substance CAS No. is not provided in the Federal Register, list either (i) the chemical name, (ii) the mixture name, or (iii) the trade name of the chemical substance as provided in the Federal Register.

(i) Chemical name as listed in the rule ..... \_\_\_\_\_

(ii) Name of mixture as listed in the rule .... \_\_\_\_\_

(iii) Trade name as listed in the rule ..... \_\_\_\_\_

c. If a chemical category is provided in the Federal Register, report the name of the category as listed in the rule, the chemical substance CAS No. you are reporting on which falls under the listed category, and the chemical name of the substance you are reporting on which falls under the listed category.

Name of category as listed in the rule ..... \_\_\_\_\_

CAS No. of chemical substance ..... [ ][ ][ ][ ][ ][ ]-[ ][ ]-[ ]

Name of chemical substance ..... \_\_\_\_\_

1.02 Identify your reporting status under CAIR by circling the appropriate response(s).

CBI Manufacturer ..... 1

☐ Importer ..... 2

Processor ..... 3

X/P manufacturer reporting for customer who is a processor ..... 4

X/P processor reporting for customer who is a processor ..... 5

☐ Mark (X) this box if you attach a continuation sheet.

1.03 Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?

CBI  
☐ Yes ..... ☒ Go to question 1.04  
☐ No ..... ☐ Go to question 1.05

1.04 a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.

CBI  
☐ Yes ..... 1  
☐ No ..... ②

b. Check the appropriate box below:

☐ You have chosen to notify your customers of their reporting obligations

Provide the trade name(s) ....

☐ You have chosen to report for your customers

☐ You have submitted the trade name(s) to EPA one day after the effective date of the rule in the Federal Register Notice under which you are reporting.

1.05 If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.

CBI  
Trade name ..... SOLITHANE 113/300  
☐ Is the trade name product a mixture? Circle the appropriate response.  
Yes ..... ①  
No ..... 2

1.06 Certification -- The person who is responsible for the completion of this form must sign the certification statement below:

CBI  
☐ "I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."

ALAN M. WEATHERS  
NAME

Alan M. Weathers  
SIGNATURE

7-3-89  
DATE SIGNED

SAFETY ADMINISTRATOR  
TITLE

(616) 582 - 6526  
TELEPHONE NO.

☐ Mark (X) this box if you attach a continuation sheet.

- 1.07 Exemptions From Reporting -- If you have provided EPA or another Federal agency with the required information on a CAIR Reporting Form for the listed substance within the past 3 years, and this information is current, accurate, and complete for the time period specified in the rule, then sign the certification below. You CBI ☐ are required to complete section 1 of this CAIR form and provide any information now required but not previously submitted. Provide a copy of any previous submissions along with your Section 1 submission.

"I hereby certify that, to the best of my knowledge and belief, all required information which I have not included in this CAIR Reporting Form has been submitted to EPA within the past 3 years and is current, accurate, and complete for the time period specified in the rule."

_____ NAME	_____ SIGNATURE	_____ DATE SIGNED
_____ TITLE	(_____) _____ TELEPHONE NO.	_____ DATE OF PREVIOUS SUBMISSION

- 1.08 CBI Certification -- If you have asserted any CBI claims in this report you must certify that the following statements truthfully and accurately apply to all of those confidentiality claims which you have asserted.

CBI ☐ "My company has taken measures to protect the confidentiality of the information, and it will continue to take these measures; the information is not, and has not been, reasonably ascertainable by other persons (other than government bodies) by using legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding) without my company's consent; the information is not publicly available elsewhere; and disclosure of the information would cause substantial harm to my company's competitive position."

_____ NAME	_____ SIGNATURE	_____ DATE SIGNED
_____ TITLE	(_____) _____ TELEPHONE NO.	

☐ Mark (X) this box if you attach a continuation sheet.

PART B CORPORATE DATA

1.09 Facility Identification

CBI Name ☐ ALLEED-SIGNAL-AEROSPACE-☐ CO  
☐ Address ☐ 315-N-LAKE-STREET-☐  
Street  
☐ BOYNE-CITY-☐  
City  
☐ MI ☐ 49712--☐  
State Zip  
Dun & Bradstreet Number .....00-139-3073  
EPA ID Number .....40222608  
Employer ID Number .....2640650  
Primary Standard Industrial Classification (SIC) Code .....3662  
Other SIC Code .....  
Other SIC Code .....

1.10 Company Headquarters Identification

CBI Name ☐ ALLEED-SIGNAL-INCORPORATED  
☐ Address ☐ PO-BOX-1021B-☐  
Street  
☐ MORRISTOWN-☐  
City  
☐ NJ ☐ 07960--☐  
State Zip  
Dun & Bradstreet Number .....04-879-4986  
Employer ID Number .....22-2640650

☐ Mark (X) this box if you attach a continuation sheet.

CBI   Name   [ ]  
[ ][ ]   Address   [ ]  

Street

  
[ ]  

City

  
[ ]  

[ ][ ]   [ ][ ][ ][ ][ ][ ]--([ ][ ][ ][ ])

State                  Zip

  
Dun & Bradstreet Number .....[ ][ ]-[ ][ ][ ]-[ ][ ][ ][ ]

CBI

Name [ ]

[ ] Title [ ]

Address [ ]  
Street

[ ]  
City

[ ][ ] [ ][ ][ ][ ][ ]--[ ][ ][ ][ ]  
State Zip

Telephone Number .....[ ][ ][ ]-[ ][ ][ ]-[ ][ ][ ][ ]

1.13 This reporting year is from ..... [ ] [ ] [ ] [ ] to [ ] [ ] [ ] [ ]  
Mo. Year Mo. Year

7

[illegible][illegible]

8



1.16 For each classification listed below, state the quantity of the listed substance that was manufactured, imported, or processed at your facility during the reporting year.

CBI  
☐ Classification Quantity (kg/yr)

Manufactured ..... 0

Imported ..... 0

Processed (include quantity repackaged) ..... 0.1419

Of that quantity manufactured or imported, report that quantity:

In storage at the beginning of the reporting year ..... 0

For on-site use or processing ..... 0

For direct commercial distribution (including export) ..... 0

In storage at the end of the reporting year ..... 0

Of that quantity processed, report that quantity:

In storage at the beginning of the reporting year ..... 0.0198

Processed as a reactant (chemical producer) ..... 0

Processed as a formulation component (mixture producer) ..... 0

Processed as an article component (article producer) ..... 0.1419

Repackaged (including export) ..... 0

In storage at the end of the reporting year ..... 0.0653

☐ Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

☐

Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)
NA		
Total		100%

☐ Mark (X) this box if you attach a continuation sheet.

2.04 State the quantity of the listed substance that your facility manufactured, imported, or processed during the 3 corporate fiscal years preceding the reporting year in descending order.

CBI

☐ Year ending ..... [1][2] [8][7]  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... 0.1500 kg

Year ending ..... [1][2] [8][6]  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... 0.1400 kg

Year ending ..... [1][2] [8][5]  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... 0 kg

2.05 Specify the manner in which you manufactured the listed substance. Circle all appropriate process types. NA

CBI

☐ Continuous process ..... 1

Semicontinuous process ..... 2

Batch process ..... 3

☐ Mark (X) this box if you attach a continuation sheet.

2.06 Specify the manner in which you processed the listed substance. Circle all appropriate process types.

- ☐ Continuous process ..... 1
- ☐ Semicontinuous process ..... 2
- ☐ Batch process ..... 3

2.07 State your facility's name-plate capacity for manufacturing or processing the listed substance. (If you are a batch manufacturer or batch processor, do not answer this question.)

- ☐ Manufacturing capacity ..... kg/yr
- ☐ Processing capacity ..... kg/yr

2.08 If you intend to increase or decrease the quantity of the listed substance manufactured, imported, or processed at any time after your current corporate fiscal year, estimate the increase or decrease based upon the reporting year's production volume.

<input type="checkbox"/>	Manufacturing Quantity (kg)	Importing Quantity (kg)	Processing Quantity (kg)
Amount of increase	NA		
Amount of decrease			

☐ Mark (X) this box if you attach a continuation sheet.

**CBI**

Days/Year	Average Hours/Day
-----------	----------------------

Manufactured .....	<u>          </u>	<u>          </u>
Processed .....	50	.3

Manufactured ..... \_\_\_\_\_

Processed ..... \_\_\_\_\_

Manufactured ..... \_\_\_\_\_

Processed ..... \_\_\_\_\_

**CBI**

Maximum daily inventory ..... \_\_\_\_\_ kg

Average monthly inventory ..... kg

1

2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

☐

<u>CAS No.</u>	<u>Chemical Name</u>	<u>Byproduct, Coproduct or Impurity<sup>1</sup></u>	<u>Concentration (%) (specify <math>\pm</math> % precision)</u>	<u>Source of By-products, Coproducts, or Impurities</u>
NA				

<sup>1</sup>Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct  
C = Coproduct  
I = Impurity

☐ Mark (X) this box if you attach a continuation sheet.

- 2.12 Existing Product Types -- List all existing product types which you manufactured, imported, or processed using the listed substance during the reporting year. List the quantity of listed substance you use for each product type as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

☐

a.	b.	c.	d.
Product Types <sup>1</sup>	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users <sup>2</sup>
X		100%	H

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) <u>MILITARY</u>

HARDWARE

<sup>2</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) <u>MILITARY</u>

☐ Mark (X) this box if you attach a continuation sheet.

- 2.13 Expected Product Types -- Identify all product types which you expect to manufacture, import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture, import, or process for each use as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

☐

a.	b.	c.	d.
Product Types <sup>1</sup>	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users <sup>2</sup>
NA			

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

<sup>2</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.



2.14 Final Product -- Complete the following table for each type of final product CBI manufactured, imported, or processed at your facility that contains the listed substance other than as an impurity.

☐

a.	b.	c.	d.
Product Type <sup>1</sup>	Final Product's Physical Form <sup>2</sup>	Average % Composition of Listed Substance in Final Product	Type of End-Users <sup>3</sup>
NA			

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

<sup>2</sup>Use the following codes to designate the final product's physical form:

A = Gas	F2 = Crystalline solid
B = Liquid	F3 = Granules
C = Aqueous solution	F4 = Other solid
D = Paste	G = Gel
E = Slurry	H = Other (specify) _____
F1 = Powder	

<sup>3</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

2.15 Circle all applicable modes of transportation used to deliver bulk shipments of the  
CBI listed substance to off-site customers.

☐ Truck ..... 1  
Railcar ..... 2  
Barge, Vessel ..... 3  
Pipeline ..... 4  
Plane ..... 5  
Other (specify) NA ..... 6

2.16 Customer Use -- Estimate the quantity of the listed substance used by your customers  
CBI or prepared by your customers during the reporting year for use under each category  
of end use listed (i-iv).

☐

Category of End Use

i. Industrial Products

Chemical or mixture ..... kg/yr

Article ..... 0.1419 kg/yr

ii. Commercial Products

Chemical or mixture ..... kg/yr

Article ..... kg/yr

iii. Consumer Products

Chemical or mixture ..... kg/yr

Article ..... kg/yr

iv. Other

Distribution (excluding export) ..... kg/yr

Export ..... kg/yr

Quantity of substance consumed as reactant ..... kg/yr

Unknown customer uses ..... kg/yr

☐ Mark (X) this box if you attach a continuation sheet.

# SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

## PART A GENERAL DATA

3.01 Specify the quantity purchased and the average price paid for the listed substance for each major source of supply listed. Product trades are treated as purchases.  
CBI The average price is the market value of the product that was traded for the listed substance.

☐

<u>Source of Supply</u>	<u>Quantity (kg)</u>	<u>Average Price (\$/kg)</u>
The listed substance was manufactured on-site.	<u>NA</u>	<u>NA</u>
The listed substance was transferred from a different company site.	<u>NA</u>	<u>NA</u>
The listed substance was purchased directly from a manufacturer or importer.	<u>NA</u>	<u>NA</u>
The listed substance was purchased from a distributor or repackager.	<u>NA</u>	<u>NA</u>
The listed substance was purchased from a mixture producer.	<u>0.1419</u>	<u>NA</u>

3.02 Circle all applicable modes of transportation used to deliver the listed substance to your facility.

CBI

☐

- Truck ..... 1
- Railcar ..... 2
- Barge, Vessel ..... 3
- Pipeline ..... 4
- Plane ..... 5
- Other (specify) MAIL ..... ⑥

☐ Mark (X) this box if you attach a continuation sheet.

3.03 a. Circle all applicable containers used to transport the listed substance to your facility.  
CBI

☐

Bags ..... 1  
Boxes ..... 2  
Free standing tank cylinders ..... 3  
Tank rail cars ..... 4  
Hopper cars ..... 5  
Tank trucks ..... 6  
Hopper trucks ..... 7  
Drums ..... 8  
Pipeline ..... 9  
Other (specify) ..... 10

b. If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks.

Tank cylinders ..... NA mmHg  
Tank rail cars ..... mmHg  
Tank trucks ..... mmHg

☐ Mark (X) this box if you attach a continuation sheet.

**3.04** If you obtain the listed substance in the form of a mixture, list the trade name(s) of the mixture, the name of its supplier(s) or manufacturer(s), an estimate of the average percent composition by weight of the listed substance in the mixture, and the amount of mixture processed during the reporting year.

<u>Trade Name</u>	<u>Supplier or Manufacturer</u>	Average % Composition by Weight <u>(specify ± % precision)</u>	Amount Processed <u>(kg/yr)</u>
SOLITHANE 113/300	ABLESTIK	< 5%	0.1419

23

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PART C RAW MATERIAL VOLUME

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3.05 State the quantity of the listed substance used as a raw material during the reporting year in the form of a class I chemical, class II chemical, or polymer, and the percent composition, by weight, of the listed substance.

☐

	Quantity Used (kg/yr)	% Composition by Weight of Listed Sub- stance in Raw Material (specify $\pm$ % precision)
Class I chemical	NA	
Class II chemical	NA	
Polymer	NA	

---

☐ Mark (X) this box if you attach a continuation sheet.

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## SECTION 4 PHYSICAL/CHEMICAL PROPERTIES

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### General Instructions:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

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### PART A PHYSICAL/CHEMICAL DATA SUMMARY

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- 4.01 Specify the percent purity for the three major<sup>1</sup> technical grade(s) of the listed substance as it is manufactured, imported, or processed. Measure the purity of the substance in the final product form for manufacturing activities, at the time you import the substance, or at the point you begin to process the substance.

CBI

☐

	<u>Manufacture</u>	<u>Import</u>	<u>Process</u>
Technical grade #1	<u>NA</u> % purity	<u>NA</u> % purity	<u>NA</u> % purity
Technical grade #2	_____ % purity	_____ % purity	_____ % purity
Technical grade #3	_____ % purity	_____ % purity	_____ % purity

---

<sup>1</sup>Major = Greatest quantity of listed substance manufactured, imported or processed.

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- 4.02 Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.

Yes ..... (1)

No ..... 2

Indicate whether the MSDS was developed by your company or by a different source.

Your company ..... 1

Another source ..... (2)

---

☐ Mark (X) this box if you attach a continuation sheet.

---

4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.

Yes ..... 1  
 No ..... (2)

4.04 For each activity that uses the listed substance, circle all the applicable number(s) corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI  
☐

Activity	Physical State				
	Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture	1	2	3	4	5
Import	1	2	3	4	5
Process	1	2	(3)	4	5
Store	1	2	(3)	4	5
Dispose	(1)	2	3	4	5
Transport	(1)	2	3	4	5

☐ Mark (X) this box if you attach a continuation sheet.



4.05 Particle Size -- If the listed substance exists in particulate form during any of the following activities, indicate for each applicable physical state the size and the percentage distribution of the listed substance by activity. Do not include particles  $\geq 10$  microns in diameter. Measure the physical state and particle sizes for importing and processing activities at the time you import or begin to process the listed substance. Measure the physical state and particle sizes for manufacturing storage, disposal and transport activities using the final state of the product.

CBI

☐

Physical State

NA

Manufacture

Import

Process

Store

Dispose

Transport

Dust

<1 micron

1 to <5 microns

5 to <10 microns

Powder

<1 micron

1 to <5 microns

5 to <10 microns

Fiber

<1 micron

1 to <5 microns

5 to <10 microns

Aerosol

<1 micron

1 to <5 microns

5 to <10 microns

☐

Mark (X) this box if you attach a continuation sheet.

MIS 31789A

**MATERIAL SAFETY DATA SHEET**

MAR 13 1989

**1. PRODUCT IDENTIFICATION**

TRADE NAME: Solithane 113/300  
 CHEMICAL NAMES: Isocyanate Terminated Polyol  
 MANUFACTURER'S NAME: ABLESTIK LABORATORIES  
 ADDRESS: 833 West 182nd Street, Gardena, CA 90248 (213) 532-9341  
 REVISION DATE: 11/30/88

<u>CHEMICAL NAMES</u>	<u>II HAZARDOUS INGREDIENTS</u>		<u>EXPOSURE LIMIT</u>	
	<u>CAS NUMBERS</u>	<u>PERCENT</u>	<u>ACGIH(TWA)</u>	<u>OSHA(PEL)</u>
Toluene diisocyanate	584-84-9	< 5	0.005ppm	0.02ppm

**III PHYSICAL PROPERTIES**

VAPOR DENSITY (AIR=1): > 1  
 SPECIFIC GRAVITY: 1.1  
 SOLUBILITY IN WATER: Not applicable  
 VAPOR PRESSURE, mm Hg at 20°C: < 0.1  
 EVAPORATION RATE (ETHER=1): < 1  
 APPEARANCE AND ODOR: Pale yellow liquid; pungent odor

MELTING POINT(°F): Not applicable  
 BOILING POINT (°F @ 760 mm Hg): 482°  
 PERCENT VOLATILE BY VOLUME: < 6

**IV FIRE AND EXPLOSION**

FLASH POINT, °F (GIVE METHOD): 200° (Setaflash)  
 AUTOIGNITION TEMPERATURE: Not determined  
 FLAMMABLE LIMITS IN AIR, VOLUME %: LOWER Not determined UPPER Not determined  
 FIRE EXTINGUISHING MATERIALS: Dry chemical, foam.  
 FIRE EXTINGUISHING PROCEDURES: Wear self-contained breathing apparatus.  
 UNUSUAL FIRE AND EXPLOSION HAZARDS: Protect against inhalation of cyanate vapors and other decomposition/combustion products.

**V HEALTH HAZARD INFORMATION****SYMPTOMS OF OVEREXPOSURE FOR EACH POTENTIAL ROUTE OF EXPOSURE**

**INHALED:** Unknown for product mixture. Inhalation of isocyanate vapors can produce severe irritation of the mucous membranes in the respiratory tract, i.e. nose, throat, and lungs. Exposure of humans to concentrations of isocyanate vapor in excess of the maximum acceptable concentration has caused illness characterized by breathlessness, chest discomfort and reduced pulmonary function. Massive exposure to high concentrations has caused, within minutes, irritation of the trachea and larynx and severe coughing spasms. Concentrations of isocyanate vapors should be maintained below the TLV by engineering controls. Can cause sensitization in humans. TDI Inhalation-Human TCLO: 0.02ppm/2Y:PUL. TDI Inhalation-Human TCLO: 0.5ppm: IRR. Symptoms of overexposure may be delayed and could include dry cough, chest tightness, wheezing, shortness of breath, asthmatic type symptoms

**CONTACT WITH SKIN:** Unknown for product mixture. Isocyanates react with skin protein and tissue moisture. If not promptly removed, liquid spills on the skin can cause reddening, swelling, and blistering of exposed skin. REPEATED SKIN CONTACT HAS CAUSED SKIN SENSITIZATION IN HUMANS AND SHOULD BE AVOIDED. TDI: Skin-Rabbit: 500 mg/24H MOD. Overexposure may cause irritation, dermatitis and possible skin sensitization given prolonged or repeated skin contact.

**CONTACT WITH EYES:** Unknown for the mixture. Liquid isocyanates splashed into the eyes can be harmful to the delicate eye tissue and must be avoided. Injury results from reaction of the isocyanate with the eye fluid which may dehydrate the tissue and result in severe irritation of the eyelid and possible damage to the cornea (corneal opacity). Exposure

EYE PROTECTION: Safety goggles with side shields.

GLOVES: Rubber

OTHER CLOTHING AND EQUIPMENT: Protective equipment to cover exposed areas.

WORK PRACTICES, HYGIENIC PRACTICES: Vent curing oven to outdoors.

OTHER HANDLING AND STORAGE REQUIREMENTS: Store frozen at all times.

PROTECTIVE MEASURES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:

Avoid contact with skin, eyes and clothing. Good housekeeping is required. Avoid inhalation of vapors.

#### IX REGULATORY INFORMATION

##### SARA/TITLE III - TOXIC CHEMICALS LIST:

This product contains chemicals subject to the reporting requirements of section 313 of Title III of Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

< 5

584-84-9

Toluene diisocyanate

##### TSCA INVENTORY STATUS:

Chemical components listed on TSCA Inventory

##### CALIFORNIA PROPOSITION 65:

This product does not contain toxic chemicals currently on the California List of known carcinogens and reproductive toxins.

---

**DISCLAIMER:** THE INFORMATION GIVEN AND THE RECOMMENDATIONS MADE HEREIN APPLY TO OUR PRODUCT(S) ALONE AND NOT IN COMBINATION WITH ANY OTHER PRODUCT(S). SUCH INFORMATION AND RECOMMENDATIONS ARE BASED ON OUR RESEARCH AND ON DATA FROM OTHER RELIABLE SOURCES AND ARE BELIEVED TO BE ACCURATE BUT NO GUARANTEE OF THEIR ACCURACY IS MADE. IN EVERY CASE WE URGE AND RECOMMEND THAT PURCHASERS BEFORE USING ANY PRODUCT MAKE THEIR OWN TESTS TO VERIFY THIS DATA UNDER THEIR OWN OPERATING CONDITIONS AND TO DETERMINE TO THEIR OWN SATISFACTION WHETHER THE PRODUCT IS SUITABLE FOR THEIR PARTICULAR PURPOSES. THE PRODUCT(S) DISCUSSED HEREIN ARE SOLD WITHOUT ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED.

## SECTION 5 ENVIRONMENTAL FATE

### PART A RATE CONSTANTS AND TRANSFORMATION PRODUCTS

5.01 Indicate the rate constants for the following transformation processes.

a. Photolysis:

Absorption spectrum coefficient (peak) .... 871 (1/M cm) at 284 nm

Reaction quantum yield,  $\phi$  ..... NO INFORMATION at — nm

Direct photolysis rate constant,  $k_p$ , at ...  $< 1.2 \times 10^{-3}$  1/hr WHEN NO ~~XXXXXXXX~~ PHOTOLYSIS RATE IS 0.37/hr. (1)

b. Oxidation constants at 25°C:

For  $^1O_2$  (singlet oxygen),  $k_{ox}$  ..... NO INFORMATION 1/M hr

For  $RO_2$  (peroxy radical),  $k_{ox}$  ..... NO INFORMATION 1/M hr

c. Five-day biochemical oxygen demand,  $BOD_5$  ... NOT APPLICABLE mg/l

d. Biotransformation rate constant:

For bacterial transformation in water,  $k_b$  ... NO OXYGEN CONSUMED 1/hr

Specify culture ..... MODIFIED MITI TEST (1)

e. Hydrolysis rate constants:

For base-promoted process,  $k_b$  ..... NO INFORMATION 1/M hr

For acid-promoted process,  $k_a$  ..... NO INFORMATION 1/M hr

For neutral process,  $k_n$  ..... NO INFORMATION 1/hr

f. Chemical reduction rate (specify conditions) NOT EXPECTED

g. Other (such as spontaneous degradation) ... POLYUREA FORMATION UNDER HYDROLYTIC CONDITIONS (1)

☐ Mark (X) this box if you attach a continuation sheet.

PART B PARTITION COEFFICIENTS

5.02 a. Specify the half-life of the listed substance in the following media.

<u>Media</u>	<u>Half-life (specify units)</u>
Groundwater	<u>&lt;&lt; 1 DAY IN H<sub>2</sub>O SOLUTION</u>
Atmosphere	<u>26 hr.</u>
Surface water	<u>&lt;&lt; 1 DAY IN H<sub>2</sub>O SOLUTION</u>
Soil	<u>&lt; 1 DAY</u>

b. Identify the listed substance's known transformation products that have a half-life greater than 24 hours.

<u>CAS No.</u>	<u>Name</u>	<u>Half-life (specify units)</u>	<u>Media</u>
<u>NO INFORMATION</u>			in
			in
			in
			in

5.03 Specify the octanol-water partition coefficient,  $K_{ow}$  ... REACTS WITH BOTH at 25°C

Method of calculation or determination ..... OCTANOL AND WATER

5.04 Specify the soil-water partition coefficient,  $K_d$  ..... REACTS WITH WATER at 25°C

Soil type ..... NO INFORMATION

5.05 Specify the organic carbon-water partition coefficient,  $K_{oc}$  ..... NO INFORMATION at 25°C

5.06 Specify the Henry's Law Constant,  $H$  ..... NO INFORMATION atm-m<sup>3</sup>/mole

☐ Mark (X) this box if you attach a continuation sheet.

5.07 List the bioconcentration factor (BCF) of the listed substance, the species for which it was determined, and the type of test used in deriving the BCF.

Bioconcentration Factor

Species

Test<sup>1</sup>

NONE DETECTED

MOINIA MACROCOPA STRAUS

NOT DEFINED (1)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

<sup>1</sup>Use the following codes to designate the type of test:

F = Flowthrough

S = Static

(1) MOBAY CORPORATION, COMPREHENSIVE ASSESSMENT AND  
INFORMATION RULE, SECTION 5, ENVIRONMENTAL FATE,  
USED WITH PERMISSION, 1989

☐ Mark (X) this box if you attach a continuation sheet.

6.04 For each market listed below, state the quantity sold and the total sales value of the listed substance sold or transferred in bulk during the reporting year.

☐

<u>Market</u>	<u>Quantity Sold or Transferred (kg/yr)</u>	<u>Total Sales Value (\$/yr)</u>
Retail sales	_____	_____
Distribution -- Wholesalers	_____	_____
Distribution -- Retailers	_____	_____
Intra-company transfer	_____	_____
Repackagers	_____	_____
Mixture producers	_____	_____
Article producers	_____	_____
Other chemical manufacturers or processors	_____	_____
Exporters	_____	_____
Other (specify)	_____	_____
_____	_____	_____

6.05 Substitutes -- List all known commercially feasible substitutes that you know exist for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to use in your current operation, and which results in a final product with comparable performance in its end uses.

CBI

☐

<u>Substitute</u>	<u>Cost (\$/kg)</u>
<u>NONE EXIST-MILITARY SPECIFICATION</u>	_____
_____	_____
_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

---

SECTION 7 MANUFACTURING AND PROCESSING INFORMATION

---

General Instructions:

For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

---

PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

---

7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

CBI

☐ Process type ..... NA

---

---

☐ Mark (X) this box if you attach a continuation sheet.

---



---

7.03 In accordance with the instructions, provide a process block flow diagram showing all process emission streams and emission points that contain the listed substance and which, if combined, would total at least 90 percent of all facility emissions if not treated before emission into the environment. If all such emissions are released from one process type, provide a process block flow diagram using the instructions for question 7.01. If all such emissions are released from more than one process type, provide a process block flow diagram showing each process type as a separate block.

CBI

☐ Process type ..... 

---

---

☐ Mark (X) this box if you attach a continuation sheet.

---

7.04 Describe the typical equipment types for each unit operation identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... \_\_\_\_\_

<u>Unit Operation ID Number</u>	<u>Typical Equipment Type</u>	<u>Operating Temperature Range (°C)</u>	<u>Operating Pressure Range (mm Hg)</u>	<u>Vessel Composition</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... POTTING PROCESS

<u>Process Stream ID Code</u>	<u>Process Stream Description</u>	<u>Physical State<sup>1</sup></u>	<u>Stream Flow (kg/yr)</u>
	<u>ENCAPSULATE WIRING</u>	<u>OL</u>	<u>0.1419</u>

<sup>1</sup>Use the following codes to designate the physical state for each process stream:

GC = Gas (condensable at ambient temperature and pressure)  
 GU = Gas (uncondensable at ambient temperature and pressure)  
 SO = Solid  
 SY = Sludge or slurry  
 AL = Aqueous liquid  
 OL = Organic liquid  
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

☐ Mark (X) this box if you attach a continuation sheet.

**CBI**

[ ]

[illegible]

7.06 continued below

☐ Mark (X) this box if you attach a continuation sheet.

---

PART A RESIDUAL TREATMENT PROCESS DESCRIPTION

---

8.01 In accordance with the instructions, provide a residual treatment block flow diagram which describes the treatment process used for residuals identified in question 7.01.

CBI

☐

Process type .....

ND

☐

Mark (X) this box if you attach a continuation sheet.

8.05 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

[illegible]

☐ Mark (X) this box if you attach a continuation sheet.

---

8.05 (continued)

<sup>1</sup>Use the following codes to designate the type of hazardous waste:

I = Ignitable  
C = Corrosive  
R = Reactive  
E = EP toxic  
T = Toxic  
H = Acutely hazardous

<sup>2</sup>Use the following codes to designate the physical state of the residual:

GC = Gas (condensable at ambient temperature and pressure)  
GU = Gas (uncondensable at ambient temperature and pressure)  
SO = Solid  
SY = Sludge or slurry  
AL = Aqueous liquid  
OL = Organic liquid  
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

---

8.05 continued below

---

☐ Mark (X) this box if you attach a continuation sheet.

---

8.05 (continued)

<sup>3</sup>For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column d. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
<u>1</u>	<u>NA</u>	<u>NA</u>
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		

<sup>4</sup>Use the following codes to designate how the concentration was determined:

A = Analytical result  
E = Engineering judgement/calculation

8.05 continued below

☐ Mark (X) this box if you attach a continuation sheet.



8.05 (continued)

<sup>5</sup>Use the following codes to designate how the concentration was measured:

V = Volume

W = Weight

<sup>6</sup>Specify the analytical test methods used and their detection limits in the table below. Assign a code to each test method used and list those codes in column e.

<u>Code</u>	<u>Method</u>	<u>Detection Limit</u> <u>(± ug/l)</u>
<u>1</u>	<u>NA</u>	<u></u>
<u>2</u>	<u></u>	<u></u>
<u>3</u>	<u></u>	<u></u>
<u>4</u>	<u></u>	<u></u>
<u>5</u>	<u></u>	<u></u>
<u>6</u>	<u></u>	<u></u>

☐ Mark (X) this box if you attach a continuation sheet.

**CBI**

[illegible]

<sup>2</sup>Use the codes provided in Exhibit 8-2 to designate the management methods

58

8.22 Describe the combustion chamber design parameters for each of the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in CBI your process block or residual treatment block flow diagram(s).

☐

Incinerator	Combustion Chamber Temperature (°C)		Location of Temperature Monitor		Residence Time In Combustion Chamber (seconds)	
	Primary	Secondary	Primary	Secondary	Primary	Secondary
1						
2						
3						

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1  
No ..... 2

8.23 Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual CBI treatment block flow diagram(s).

☐

Incinerator	Air Pollution Control Device <sup>1</sup>	Types of Emissions Data Available
1	NA	NA
2		
3		

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1  
No ..... 2

<sup>1</sup>Use the following codes to designate the air pollution control device:

S = Scrubber (include type of scrubber in parenthesis)  
E = Electrostatic precipitator  
O = Other (specify) \_\_\_\_\_

☐ Mark (X) this box if you attach a continuation sheet.

# PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE

9.01 Mark (X) the appropriate column to indicate whether your company maintains records on the following data elements for hourly and salaried workers. Specify for each data element the year in which you began maintaining records and the number of years the records for that data element are maintained. (Refer to the instructions for further explanation and an example.)

CBI

☐

Data Element	Data are Maintained for:		Year in Which Data Collection Began	Number of Years Records Are Maintained
	Hourly Workers	Salaried Workers		
Date of hire	<u>X</u>	<u>X</u>	<u>1952</u>	<u>37</u>
Age at hire	<u>X</u>	<u>X</u>	<u>1952</u>	<u>37</u>
Work history of individual before employment at your facility	<u>X</u>	<u>X</u>	<u>1952</u>	<u>37</u>
Sex	<u>X</u>	<u>X</u>	<u>1952</u>	<u>37</u>
Race	<u>X</u>	<u>X</u>	<u>1966</u>	<u>22</u>
Job titles	<u>X</u>	<u>X</u>	<u>1952</u>	<u>37</u>
Start date for each job title	<u>X</u>	<u>X</u>	<u>1952</u>	<u>37</u>
End date for each job title	<u>X</u>	<u>X</u>	<u>1952</u>	<u>37</u>
Work area industrial hygiene monitoring data	<u>X</u>	<u>X</u>	<u>1972</u>	<u>17</u>
Personal employee monitoring data	<u>X</u>	<u>NA</u>	<u>1972</u>	<u>17</u>
Employee medical history	<u>X</u>	<u>X</u>	<u>1982</u>	<u>7</u>
Employee smoking history	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Accident history	<u>X</u>	<u>X</u>	<u>1972</u>	<u>17</u>
Retirement date	<u>X</u>	<u>X</u>	<u>1967</u>	<u>21</u>
Termination date	<u>X</u>	<u>X</u>	<u>1952</u>	<u>37</u>
Vital status of retirees	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Cause of death data	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>

☐ Mark (X) this box if you attach a continuation sheet.

9.02 In accordance with the instructions, complete the following table for each activity in which you engage.

CBI

☐

a.	b.	c.	d.	e.
<u>Activity</u>	<u>Process Category</u>	<u>Yearly Quantity (kg)</u>	<u>Total Workers</u>	<u>Total Worker-Hours</u>
Manufacture of the listed substance	Enclosed	<u>NA</u>	<u>          </u>	<u>          </u>
	Controlled Release	<u>NA</u>	<u>          </u>	<u>          </u>
	Open	<u>NA</u>	<u>          </u>	<u>          </u>
On-site use as reactant	Enclosed	<u>NA</u>	<u>          </u>	<u>          </u>
	Controlled Release	<u>NA</u>	<u>          </u>	<u>          </u>
	Open	<u>NA</u>	<u>          </u>	<u>          </u>
On-site use as nonreactant	Enclosed	<u>NA</u>	<u>          </u>	<u>          </u>
	Controlled Release	<u>NA</u>	<u>          </u>	<u>          </u>
	Open	<u>NA</u>	<u>          </u>	<u>          </u>
On-site preparation of products	Enclosed	<u>NA</u>	<u>          </u>	<u>          </u>
	Controlled Release	<u>NA</u>	<u>          </u>	<u>          </u>
	Open	<u>NA</u>	<u>          </u>	<u>          </u>

☐ Mark (X) this box if you attach a continuation sheet.

9.03 Provide a descriptive job title for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance.

CBI

☐

Labor Category

Descriptive Job Title

A

MULTI - ASSEMBLER

B

C

D

E

F

G

H

I

J

☐ Mark (X) this box if you attach a continuation sheet.

---

9.04 In accordance with the instructions, provide your process block flow diagram(s) and indicate associated work areas.

CBI

☐ Process type ..... NA

---

☐ Mark (X) this box if you attach a continuation sheet.

---

9.05 Describe the various work area(s) shown in question 9.04 that encompass workers who may potentially come in contact with or be exposed to the listed substance. Add any additional areas not shown in the process block flow diagram in question 7.01 or 7.02. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... NA

Work Area ID

Description of Work Areas and Worker Activities

1

2

3

4

5

6

7

8

9

10

☐ Mark (X) this box if you attach a continuation sheet.



9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

☐ Process type ..... NA

Work area .....

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance <sup>1</sup>	Average Length of Exposure Per Day <sup>2</sup>	Number of Days per Year Exposed
<u>A</u>	<u>1</u>	<u>NA</u>	<u>OL</u>	<u>A</u>	<u>50</u>

<sup>1</sup>Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)  
 GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)  
 SO = Solid

SY = Sludge or slurry  
 AL = Aqueous liquid  
 OL = Organic liquid  
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

<sup>2</sup>Use the following codes to designate average length of exposure per day:

A = 15 minutes or less  
 B = Greater than 15 minutes, but not exceeding 1 hour  
 C = Greater than one hour, but not exceeding 2 hours

D = Greater than 2 hours, but not exceeding 4 hours  
 E = Greater than 4 hours, but not exceeding 8 hours  
 F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type .....

Work area .....

Labor Category	8-hour TWA Exposure Level (ppm, mg/m <sup>3</sup> , other-specify)	15-Minute Peak Exposure Level (ppm, mg/m <sup>3</sup> , other-specify)
A	<.005 PPM	<.02 PPM

☐ Mark (X) this box if you attach a continuation sheet.

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**PART B WORK PLACE MONITORING PROGRAM**

---

9.08 If you monitor worker exposure to the listed substance, complete the following table.

CBI

☐

<u>Sample/Test</u>	<u>Work Area ID</u>	<u>Testing Frequency (per year)</u>	<u>Number of Samples (per test)</u>	<u>Who Samples<sup>1</sup></u>	<u>Analyzed In-House (Y/N)</u>	<u>Number of Years Records Maintained</u>
Personal breathing zone	_____	_____	_____	_____	_____	_____
General work area (air)	_____	_____	_____	_____	_____	_____
Wipe samples	_____	_____	_____	_____	_____	_____
Adhesive patches	_____	_____	_____	_____	_____	_____
Blood samples	_____	_____	_____	_____	_____	_____
Urine samples	_____	_____	_____	_____	_____	_____
Respiratory samples	_____	_____	_____	_____	_____	_____
Allergy tests	_____	_____	_____	_____	_____	_____
Other (specify)	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
Other (specify)	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
Other (specify)	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

---

<sup>1</sup>Use the following codes to designate who takes the monitoring samples:

A = Plant industrial hygienist

B = Insurance carrier

C = OSHA consultant

D = Other (specify) \_\_\_\_\_

---

☐ Mark (X) this box if you attach a continuation sheet.

---

9.09 For each sample type identified in question 9.08, describe the type of sampling and analytical methodology used for each type of sample.

<input type="checkbox"/>	<u>Sample Type</u>	<u>Sampling and Analytical Methodology</u>

9.10 If you conduct personal and/or ambient air monitoring for the listed substance, specify the following information for each equipment type used.

<input type="checkbox"/>	<u>Equipment Type</u> <sup>1</sup>	<u>Detection Limit</u> <sup>2</sup>	<u>Manufacturer</u>	<u>Averaging Time (hr)</u>	<u>Model Number</u>

<sup>1</sup>Use the following codes to designate personal air monitoring equipment types:

- A = Passive dosimeter
- B = Detector tube
- C = Charcoal filtration tube with pump
- D = Other (specify) \_\_\_\_\_

Use the following codes to designate ambient air monitoring equipment types:

- E = Stationary monitors located within work area
- F = Stationary monitors located within facility
- G = Stationary monitors located at plant boundary
- H = Mobile monitoring equipment (specify) \_\_\_\_\_
- I = Other (specify) \_\_\_\_\_

<sup>2</sup>Use the following codes to designate detection limit units:

- A = ppm
- B = Fibers/cubic centimeter (f/cc)
- C = Micrograms/cubic meter ( $\mu\text{m}^3$ )

☐ Mark (X) this box if you attach a continuation sheet.

9.11 If you conduct routine medical tests for monitoring the health effects of exposure to the listed substance, specify the type and frequency of the tests.

CBI

<input type="checkbox"/>	<u>Test Description</u>	<u>Frequency</u> (weekly, monthly, yearly, etc.)

☐ Mark (X) this box if you attach a continuation sheet.

---

PART C ENGINEERING CONTROLS

---

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... 

---

Work area ..... 

---

<u>Engineering Controls</u>	<u>Used (Y/N)</u>	<u>Year Installed</u>	<u>Upgraded (Y/N)</u>	<u>Year Upgraded</u>
Ventilation:				
Local exhaust	<u>Y</u>	<u>1978</u>	<u>Y</u>	<u>1983</u>
General dilution	<u>N</u>	<u>          </u>	<u>          </u>	<u>          </u>
Other (specify)				
<u>FINGER COTS</u>	<u>Y</u>	<u>1978</u>	<u>No</u>	<u>          </u>
Vessel emission controls	<u>N</u>	<u>          </u>	<u>          </u>	<u>          </u>
Mechanical loading or packaging equipment	<u>N</u>	<u>          </u>	<u>          </u>	<u>          </u>
Other (specify)				
<u>                                  </u>	<u>N</u>	<u>          </u>	<u>          </u>	<u>          </u>

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☐ Mark (X) this box if you attach a continuation sheet.

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9.13 Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... NA

Work area .....

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)

☐ Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... POTTING  
Work area .....

<u>Equipment Types</u>	<u>Wear or Use (Y/N)</u>
Respirators	<u>N</u>
Safety goggles/glasses	<u>Y</u>
Face shields	<u>N</u>
Coveralls	<u>N</u>
Bib aprons	<u>N</u>
Chemical-resistant gloves	<u>Y</u>
Other (specify)	
_____	_____
_____	_____

☐ Mark (X) this box if you attach a continuation sheet.



9.15 If workers use respirators when working with the listed substance, specify for each process type, the work areas where the respirators are used, the type of respirators used, the average usage, whether or not the respirators were fit tested, and the type and frequency of the fit tests. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... NA

<u>Work Area</u>	<u>Respirator Type</u>	<u>Average Usage<sup>1</sup></u>	<u>Fit Tested (Y/N)</u>	<u>Type of Fit Test<sup>2</sup></u>	<u>Frequency of Fit Tests (per year)</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate average usage:

A = Daily

B = Weekly

C = Monthly

D = Once a year

E = Other (specify) \_\_\_\_\_

<sup>2</sup>Use the following codes to designate the type of fit test:

QL = Qualitative

QT = Quantitative

☐ Mark (X) this box if you attach a continuation sheet.

PART E WORK PRACTICES

9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

☐

Process type ..... POTTING

Work area ..... LIMITED ACCESS,

TRAINING

9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ..... NA

Work area .....

<u>Housekeeping Tasks</u>	<u>Less Than Once Per Day</u>	<u>1-2 Times Per Day</u>	<u>3-4 Times Per Day</u>	<u>More Than 4 Times Per Day</u>
Sweeping	_____	_____	_____	_____
Vacuuming	_____	_____	_____	_____
Water flushing of floors	_____	_____	_____	_____
Other (specify)	_____	_____	_____	_____
_____	_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

9.21 Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance?

Routine exposure

Yes ..... 1

No ..... 2

Emergency exposure

Yes ..... 1

No ..... 2

If yes, where are copies of the plan maintained?

Routine exposure: \_\_\_\_\_

Emergency exposure: \_\_\_\_\_

9.22 Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.

Yes ..... 1

No ..... 2

If yes, where are copies of the plan maintained? \_\_\_\_\_

Has this plan been coordinated with state or local government response organizations? Circle the appropriate response.

Yes ..... 1

No ..... 2

9.23 Who is responsible for monitoring worker safety at your facility? Circle the appropriate response.

Plant safety specialist ..... 1

Insurance carrier ..... 2

OSHA consultant ..... 3

Other (specify) \_\_\_\_\_ 4

☐ Mark (X) this box if you attach a continuation sheet.

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## SECTION 10 ENVIRONMENTAL RELEASE

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### General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and, thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than an RQ must be reported as a separate release for each 24-hour period the release exceeds the RQ.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

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### PART A GENERAL INFORMATION

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10.01 Where is your facility located? Circle all appropriate responses.

#### CBI

- ☐ Industrial area ..... ①
- Urban area ..... 2
- Residential area ..... 3
- Agricultural area ..... 4
- Rural area ..... 5
- Adjacent to a park or a recreational area ..... 6
- Within 1 mile of a navigable waterway ..... ⑦
- Within 1 mile of a school, university, hospital, or nursing home facility ..... ⑧
- Within 1 mile of a non-navigable waterway ..... ⑨
- Other (specify) \_\_\_\_\_ ..... 10

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☐ Mark (X) this box if you attach a continuation sheet.

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10.02 Specify the exact location of your facility (from central point where process unit is located) in terms of latitude and longitude or Universal Transverse Mercader (UTM) coordinates.

Latitude ..... 45 ° 09 ' 00 "

Longitude ..... 85 ° 54 ' 00 "

UTM coordinates ..... Zone \_\_\_\_\_, Northing \_\_\_\_\_, Easting \_\_\_\_\_

10.03 If you monitor meteorological conditions in the vicinity of your facility, provide the following information.

Average annual precipitation ..... \_\_\_\_\_ inches/year

Predominant wind direction ..... \_\_\_\_\_

10.04 Indicate the depth to groundwater below your facility.

Depth to groundwater ..... \_\_\_\_\_ meters

10.05 For each on-site activity listed, indicate (Y/N/NA) all routine releases of the listed substance to the environment. (Refer to the instructions for a definition of Y, N, and NA.)

CBI

☐

On-Site Activity	Environmental Release		
	Air	Water	Land
Manufacturing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Importing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Processing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Otherwise used	<u>NA</u>	<u>NA</u>	<u>NA</u>
Product or residual storage	<u>NA</u>	<u>NA</u>	<u>NA</u>
Disposal	<u>NA</u>	<u>NA</u>	<u>NA</u>
Transport	<u>NA</u>	<u>NA</u>	<u>NA</u>

☐ Mark (X) this box if you attach a continuation sheet.

10.08 Describe the control technologies used to minimize release of the listed substance for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

CBI

☐

Process type .....

<u>Stream ID Code</u>	<u>Control Technology</u>	<u>Percent Efficiency</u>

☐ Mark (X) this box if you attach a continuation sheet.

PART B RELEASE TO AIR

10.09 Point Source Emissions -- Identify each emission point source containing the listed substance in terms of a Stream ID Code as identified in your process block or residual treatment block flow diagram(s), and provide a description of each point source. Do not include raw material and product storage vents, or fugitive emission sources (e.g., equipment leaks). Photocopy this question and complete it separately for each process type.

CBI

☐

Process type .....

NA

Point Source  
ID Code

Description of Emission Point Source

☐ Mark (X) this box if you attach a continuation sheet.

☐ Mark (X) this box if you attach a continuation sheet.

10.10 Emission Characteristics - - Characterize the emissions for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

☐

Point Source ID Code	Physical State <sup>1</sup>	Average Emissions (kg/day)	Frequency <sup>2</sup> (days/yr)	Duration <sup>3</sup> (min/day)	Average Emission Factor <sup>4</sup>	Maximum Emission Rate (kg/min)	Maximum Emission Rate Frequency (events/yr)	Maximum Emission Rate Duration (min/event)
NA								

<sup>1</sup>Use the following codes to designate physical state at the point of release:

G = Gas; V = Vapor; P = Particulate; A = Aerosol; O = Other (specify) \_\_\_\_\_

<sup>2</sup>Frequency of emission at any level of emission

<sup>3</sup>Duration of emission at any level of emission

<sup>4</sup>Average Emission Factor — Provide estimated ( $\pm$  25 percent) emission factor (kg of emission per kg of production of listed substance)



10.11 Stack Parameters -- Identify the stack parameters for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

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Point Source ID Code	Stack Height(m)	Stack Inner Diameter (at outlet) (m)	Exhaust Temperature (°C)	Emission Exit Velocity (m/sec)	Building Height(m) <sup>1</sup>	Building Width(m) <sup>2</sup>	Vent Type <sup>3</sup>
NA							

<sup>1</sup>Height of attached or adjacent building

<sup>2</sup>Width of attached or adjacent building

<sup>3</sup>Use the following codes to designate vent type:

H = Horizontal

V = Vertical

☐ Mark (X) this box if you attach a continuation sheet.

10.12 If the listed substance is emitted in particulate form, indicate the particle size distribution for each Point Source ID Code identified in question 10.09.  
Photocopy this question and complete it separately for each emission point source.

CBI

☐

Point source ID code ..... NA

Size Range (microns)

Mass Fraction (%  $\pm$  % precision)

< 1

$\geq 1$  to < 10

$\geq 10$  to < 30

$\geq 30$  to < 50

$\geq 50$  to < 100

$\geq 100$  to < 500

$\geq 500$

Total = 100%

☐ Mark (X) this box if you attach a continuation sheet.

# PART C FUGITIVE EMISSIONS

10.13 Equipment Leaks -- Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separately for each process type.

CBI

☐

Process type ..... NA

Percentage of time per year that the listed substance is exposed to this process type ..... %

Equipment Type	Number of Components in Service by Weight Percent of Listed Substance in Process Stream					Greater than 99%
	Less than 5%	5-10%	11-25%	26-75%	76-99%	
Pump seals <sup>1</sup>						
Packed						
Mechanical						
Double mechanical <sup>2</sup>						
Compressor seals <sup>1</sup>						
Flanges						
Valves						
Gas <sup>3</sup>						
Liquid						
Pressure relief devices <sup>4</sup> (Gas or vapor only)						
Sample connections						
Gas						
Liquid						
Open-ended lines <sup>5</sup> (e.g., purge, vent)						
Gas						
Liquid						

<sup>1</sup>List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13 continued on next page

☐ Mark (X) this box if you attach a continuation sheet.

10.13 (continued)

<sup>2</sup>If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively

<sup>3</sup>Conditions existing in the valve during normal operation

<sup>4</sup>Report all pressure relief devices in service, including those equipped with control devices

<sup>5</sup>Lines closed during normal operation that would be used during maintenance operations

10.14 Pressure Relief Devices with Controls -- Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c.

CBI

☐

a. Number of Pressure Relief Devices	b. Percent Chemical in Vessel <sup>1</sup>	c. Control Device	d. Estimated Control Efficiency <sup>2</sup>
NA			

<sup>1</sup>Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)

<sup>2</sup>The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions

☐ Mark (X) this box if you attach a continuation sheet.

10.15 Equipment Leak Detection -- If a formal leak detection and repair program is in place, complete the following table regarding those leak detection and repair procedures. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type .....

Equipment Type	Leak Detection	Detection Device <sup>1</sup>	Frequency of Leak Detection (per year)	Repairs Initiated (days after detection)	Repairs Completed (days after initiated)
	Concentration (ppm or mg/m <sup>3</sup> ) Measured at _____ Inches from Source				
Pump seals					
Packed	_____	_____	_____	_____	_____
Mechanical	_____	_____	_____	_____	_____
Double mechanical	_____	_____	_____	_____	_____
Compressor seals	_____	_____	_____	_____	_____
Flanges	_____	_____	_____	_____	_____
Valves					
Gas	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____
Pressure relief devices (gas or vapor only)	_____	_____	_____	_____	_____
Sample connections					
Gas	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____
Open-ended lines					
Gas	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate detection device:

POVA = Portable organic vapor analyzer

FPM = Fixed point monitoring

0 = Other (specify) \_\_\_\_\_

☐ Mark (X) this box if you attach a continuation sheet.

☐ Mark (X) this box if you attach a continuation sheet.

10.16 Raw Material, Intermediate and Product Storage Emissions - - Complete the following table by providing the information on each liquid raw material, intermediate, and product storage vessel containing the listed substance as identified in your process block or residual treatment block flow diagram(s).

CRI

☐

Vessel Type <sup>1</sup>	Floating Roof <sup>2</sup> Seals <sup>2</sup>	Composition of Stored Materials <sup>3</sup>	Throughput (liters per year)	Vessel Filling Rate (gpm)	Vessel Filling Duration (min)	Vessel Inner Diameter (m)	Vessel Height (m)	Operating Vessel Volume (l)	Vessel Emission Controls <sup>4</sup>	Design Flow Rate <sup>5</sup>	Vent Diameter (cm)	Control Efficiency (%)	Basis for Estimate <sup>6</sup>
NA													

<sup>1</sup>Use the following codes to designate vessel type:

- F = Fixed roof
- CIF = Contact internal floating roof
- NCIF = Noncontact internal floating roof
- EFR = External floating roof
- P = Pressure vessel (indicate pressure rating)
- H = Horizontal
- U = Underground

<sup>2</sup>Use the following codes to designate floating roof seals:

- MS1 = Mechanical shoe, primary
- MS2 = Shoe-mounted secondary
- MS2R = Rim-mounted, secondary
- LM1 = Liquid-mounted resilient filled seal, primary
- LM2 = Rim-mounted shield
- LMW = Weather shield
- VM1 = Vapor mounted resilient filled seal, primary
- VM2 = Rim-mounted secondary
- VMW = Weather shield

<sup>3</sup>Indicate weight percent of the listed substance. Include the total volatile organic content in parenthesis

<sup>4</sup>Other than floating roofs

<sup>5</sup>Gas/vapor flow rate the emission control device was designed to handle (specify flow rate units)

<sup>6</sup>Use the following codes to designate basis for estimate of control efficiency:

- C = Calculations
- S = Sampling

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**PART E NON-ROUTINE RELEASES**

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10.23 Indicate the date and time when the release occurred and when the release ceased or was stopped. If there were more than six releases, attach a continuation sheet and list all releases.

<u>Release</u>	<u>Date Started</u>	<u>Time (am/pm)</u>	<u>Date Stopped</u>	<u>Time (am/pm)</u>
<u>1</u>	<u>NA</u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>3</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>4</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>5</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>6</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

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10.24 Specify the weather conditions at the time of each release.

<u>Release</u>	<u>Wind Speed (km/hr)</u>	<u>Wind Direction</u>	<u>Humidity (%)</u>	<u>Temperature (°C)</u>	<u>Precipitation (Y/N)</u>
<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>3</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>4</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>5</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>6</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

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☐ Mark (X) this box if you attach a continuation sheet.

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